

Commercial Recycling

a. Introduction

In Rhode Island, the term “Commercial Solid Waste” refers to all solid waste that is not Municipal Solid Waste, as defined in Part 1-7, of this Plan, Glossary of Terms. This means that most residential solid waste generated in apartment buildings, large multi-family houses, and condominium complexes that is collected and disposed of under a contract between the generator and the hauler and without municipal involvement is considered to be CSW.

CSW typically consists of a large percentage of recyclable materials, such as office paper and corrugated cardboard. An analysis to determine the composition of Rhode Island’s CSW has never been conducted. The 1990 Solid Waste Composition Study analyzed 1) the composition of the MSW stream only; and 2) the combined MSW and CSW streams, but not the CSW stream only. EPA and most jurisdictions define MSW to be the combined residential and commercial waste streams and do their research in this combined waste stream context. Therefore, there is little data available concerning the composition of what in Rhode Island is defined as “Commercial Solid Waste.” However, the Statewide Waste Characterization Study conducted in 1999 by the California Integrated Waste Management Board (CIWMB) included a section on Business Waste Characterization which provides a composition analysis of the solid waste produced by California’s private sector. California’s “Business Waste” comes from the same private sector elements as Rhode Island’s “CSW”. With the cautionary note that Rhode Island’s CSW includes a significant amount of residential waste, the California data do provide some clues concerning the nature of the CSW stream in Rhode Island. Because CIWMB provides composition estimates for individual Standard Industrial Classifications (SIC), an estimate of the Rhode Island commercial sector waste composition can be obtained by adjusting the estimates to reflect the industrial make up of Rhode Island. The CIWMB data was combined with Rhode Island employment by SIC code in 2000 to obtain the estimates in Table 171- 6-1.

Table 171- Error! No text of specified style in document. -1 Estimated Rhode Island Business Sector Waste Composition*

Category	Material	Percent
Paper Total	Uncoated Corrugated Cardboard	7.0 %
	Paper Bags	0.7 %
	Newspaper	3.3 %
	White Ledger Paper	3.7 %
	Colored Ledger Paper	0.3 %
	Computer Paper	0.5 %
	Other Office Paper	1.9 %
	Magazines and Catalogs	2.3 %
	Phone Books and Directories	0.3 %
	Other Miscellaneous Paper	4.8 %
	Remainder/ Composite Paper	12.2 %
Glass Total		36.9 %
	Clear Glass Bottles & Containers	1.1 %
	Green Glass Bottles & Containers	0.3 %
	Brown Glass Bottles & Containers	0.2 %
	Other Colored Glass Bottles & Containers	0.0 %
	Flat Glass	0.1 %
	Remainder/ Composite Glass	0.6 %
Metals Total		2.4 %
	Tin/Steel Cans	0.8 %
	Major Appliances	0.0 %
	Other Ferrous Metal	2.5 %
	Aluminum Cans	0.2 %
	Other Non-Ferrous Metal	0.2 %
Plastics Total	Remainder/ Composite Metal	2.5 %
		6.2 %
	HDPE Containers	0.7 %
	PETE Containers	0.4 %
	Miscellaneous Plastic Containers	0.7 %
	Film Plastic	4.8 %
	Durable Plastic Items	2.8 %
Organics Total	Remainder/ Composite Plastic	1.9 %
		11.3 %
	Food	14.4 %
	Leaves & Grass	4.5 %
	Prunings & Trimmings	0.7 %
	Branches & Stumps	0.1 %
	Agricultural Crop Residues	0.0 %
	Manures	0.2 %
	Textiles	2.6 %
	Remainder/ Composite Organic	4.8 %
C & D Total		27.4 %
	Concrete	0.4 %
	Asphalt Paving	0.1 %
	Asphalt Roofing	0.0 %
	Lumber	7.0 %
	Gypsum Board	1.1 %
	Rock, Soil & Fines	1.0 %
	Remainder/ Composite Construction & Demolition	1.2 %
		10.8 %
HW Total	Paint	0.1 %
	Vehicle & Equipment Fluids	0.1 %
	Used Oil	0.0 %
	Batteries	0.1 %
	Remainder/ Composite Household Hazardous	0.1 %
		0.3 %
Other Total	Ash	0.1 %
	Sewage Solids	0.0 %
	Industrial Sludge	0.0 %
	Treated Medical Waste	0.0 %
	Bulky Items	1.6 %
	Tires	0.4 %
	Remainder/ Composite Special Waste	1.9 %
Grand Total	Mixed Residue	0.7 %
		4.7 %
Grand Total		100.0 %

*Estimates were obtained by combining the Rhode Island Economic Development Corporation's listing of businesses with 50 or more employees classified by SIC code (2000) with CIWMB waste generation and composition estimates

Table 171- Error! No text of specified style in document. -2 Commercial Solid Waste Disposed of at the Central Landfill in Johnston from 1996 Through 2003

Year	Tons
1996	380,663
1997	538,843
1998	763,462
1999	628,998
2000	619,070
2001	639,474
2002	642,361
2003	673,727

These figures do not account for CSW disposed at other locations, the portion of the CSW that has been historically recycled, or increases in commercial recycling from 1996 through 2003, although it is a very safe assumption that, based on the discussion in Part 5, 100 percent of the CSW generated in Rhode Island is being tipped at the Landfill. When considered in context with the waste composition data, it is estimated that at least 300,000 tons per year of material from the CSW stream could be recycled.

b. Background

Although the 1996 Plan designated DEM as the lead agency for commercial recycling, DEM has not been active in commercial recycling for more than five years.

The commercial recycling plans that businesses were required by regulation to file with DEM proved to be impractical, unrealistic, and impossibly difficult to obtain widespread compliance in a cost-effective manner. Therefore, DEM did not attempt to effectively implement the plans during the eight years preceding 2004.

RIRRC's efforts to enforce the regulation prohibiting the landfilling of loads of CSW containing 20% or more recyclables proved to be cost-prohibitive and extremely difficult to conduct in such a way that compliance would be sustained in court if they entered the court system. Moreover, RIRRC and DEM have been unable to develop a program to obtain effective compliance with the requirement that landfill-bound CSW consist of no more than 20 percent recyclables.

c. Federal and State Regulations

- 1) **Federal:** Presently, there are no federal regulations regarding the recycling of CSW.
- 2) **State:** The Rules and Regulations for Reduction and Recycling of Commercial and Non-Municipal Residential Solid Waste were promulgated in October 1996 under the authorities of Chapters 23-18.8-2, 23-18.9-1, 23-18.9-7, 23-19-3, 23-19-5, 37-15, 42-17.1-2, 42-17.6,

42-20.16, and 42-35 of the Rhode Island General Laws of 1956, as amended. Generally, the regulations have three main purposes. First, the materials that must be recycled are defined. Second, the regulations establish the requirement that recyclables must be segregated and maintained in good condition. Third, classes of parties are defined that must prepare and submit a waste prevention and recycling plan, implement that plan, and report annually on the progress for implementation. The regulations define the following materials as recyclable and require they be segregated from CSW:

Aluminum	Automobiles	Coated unbleached kraft beverage carriers
Corrugated cardboard	Glass food and beverage containers	Laser toner cartridges
Leaves and yard waste	Newspaper	High density polyethylene (HDPE) plastic milk and water containers
Office papers	Polyethylene terephthalate (PET) plastic soft drink containers	Steel, and tin coated steel cans
Telephone directories	Used lubricating oil	Vehicle batteries
White goods	Clean wood waste.	

The following materials are defined as recyclable and must be segregated from non-municipal residential solid waste:

Aluminum	Glass food and beverage containers	Leaves and yard wastes
Newspaper	High density polyethylene (HDPE) plastic milk and water containers	Polyethylene terephthalate (PET) plastic soft drink containers
Steel and tin-coated steel cans	Telephone directories	White goods

The current regulations require that private and institutional employers of 50 or more workers and owners of multi-unit housing who generate non-municipal residential waste submit to DEM a plan which must include a waste audit and descriptions of the employer's recyclables separation and waste reduction plans. The regulations require that the plans be implemented after approval by DEM and that progress reports be filed annually.

The regulations prohibit solid waste management facilities from accepting for disposal any CSW containing more than twenty percent (20%) by weight of recyclables.

d. Current Status of Commercial Recycling

In 2003, the RIRRC provided a grant of \$102,000 to CleanScape, Inc. of Providence which is dedicated to the business of obtaining recyclables from commercial accounts and re-marketing them. The grant was designed to help CleanScape purchase the recycling containers necessary for its program of collecting recyclable materials from private businesses and institutions. CleanScape and SORT, a recycling collection service operated by the Blackstone Valley Chapter, RI Arc, are the only firms doing business in Rhode Island that are dedicated solely to the collection and marketing of recyclables from business and industry.

Furthermore, a substantial (although unknown) amount of recycling of paper, cardboard and textiles is done by traditional scrap firms, such as Berger & Company and United Paper Stock, who have been in business in Rhode Island for decades handling all types of scrap.

Commercial recycling is also done at private and publicly-owned solid waste transfer stations which generally have the space and some equipment for separating recyclables from the commercial waste stream.

Also in 2003, the RIRRC began operating the Tipping Facility, a transfer station in which solid waste can be tipped more quickly and safely than at the operational face of the Landfill. The Tipping Facility enables RIRRC to remove recyclables from the CSW stream, mostly scrap metal, corrugated cardboard and clean wood. Over the first year of its operation, the amount of recyclables recovered from the CSW stream has steadily and rapidly increased with RIRRC staff reporting an average of more than 100 tons per day of cardboard, wood, and metal being recovered by the spring of 2005. Further, RIRRC in Fiscal 2005 will invest in equipment to increase an eight-person sorting station in the form of an automated belt for the purposes of separating cardboard, wood and metal from the CSW stream which is expected to at least double the amount of material extracted at the Tipping Facility.~~the tons diverted to exceed 100 tons per day.~~

In order to assist small generators, RIRRC operates a drop-off site for recyclables at the Landfill facility. The site currently accepts mixed recyclables, newsprint, corrugated cardboard, mixed wastepaper, telephone directories, and scrap metal. This site alone, however, will not prompt large increases in commercial recycling.

As indicated in earlier sections of this Plan, residential solid waste from apartment and condominium buildings is classified as CSW. Consequently, recyclables from these residential units are classified as commercial recyclables despite the fact that they are identical in nature to municipal recyclables and they are subject to a tipping fee at the MRF set at the discretion of the RIRRC Executive Director.

There were no active State commercial recycling programs to help private firms comply with the statute that requires all businesses to separate recyclable materials from the

CSW they generate and market them. With the exception of the aforementioned programs, therefore, source separation of traditional recyclables from CSW occurs entirely independent of RIRRC or DEM.

It should be noted here that RIRRC operates major programs that divert hundreds of thousands of tons of C&D debris, waste tires, white goods, leaf and yard debris, household hazardous waste and electronics from landfill disposal and has developed a program to divert mattresses from landfilling. These programs are discussed in greater detail in Part 7.

e. Findings

The Tipping Facility has become RIRRC's de facto principal CSW recycling facility. It is expected that the MRF will continue to expand its production of recyclable materials.

Because of the lack of State involvement with commercial recycling, and because of the competitive nature of the commercial waste paper firms doing business in Rhode Island, it is impossible to accurately determine the extent of commercial recycling by private sector. It can however, be concluded that because of the program vacuum in this area, there is significant potential for increasing the level of commercial recycling.

A decade of observation leads to the conclusion that most small businesses do not comply with the State law that requires them to recycle. Furthermore, surveys conducted by RIRRC staff indicate substantial volumes of cardboard, paper and clean wood continue to be disposed at the Landfill.

There are no facilities in Rhode Island designed and dedicated solely for the purpose of separating recyclables from the non-segregated CSW stream. Such a facility could vary from a building with sophisticated sorting equipment for the receiving and separation recyclables from the CSW stream to a simple concrete pad where recyclables are recovered from CSW tipped on the ground. Representatives of the hauling industry have indicated there is a need for a commercial recyclables sorting facility and that such a facility, whether operated by RIRRC or privately, would be used by haulers to recover recyclables from the CSW stream.

The commercial recycling reporting system described in DEM's *Rules & Regulations for Reduction and Recycling of Commercial & Non-Municipal Solid Waste* does not work. Furthermore, enforcement of the provision in the aforementioned regulations prohibiting the landfilling of loads of trash containing 20% or more recyclables is impossible. Moreover, DEM has indicated it will be unable to implement non-regulatory commercial recycling programs going forward.

f. Recommendations

1. It is recommended that a facility or facilities for the separation of recyclables from the CSW stream be developed and put into operation by the end of

- calendar year 2007. This facility or facilities could be publicly-owned and operated on a user-fee basis open to all haulers, it (they) could be owned and operated as a public-private partnership, or it (they) can be developed entirely on a privately owned and operated basis.
2. It is further recommended that RIRRC, DEM and the hauling industry work together to develop a commercial recycling plan for Rhode Island which integrates the design and operation of the aforementioned recycling facility(ies) with DEM's proposed new approaches to commercial recycling described in Recommendations f5, 6, and 7.
 3. DEM should, by the end of 2005, formally eliminate the commercial recycling reporting system that is set forth in the existing *Rules & Regulations for Reduction and Recycling of Commercial & Non-Municipal Solid Waste* that were adopted in October 1996.
 4. DEM should, upon adoption of this Plan by the State Planning Council, conduct a study to determine whether the statute requiring all businesses, however small, to recycle is practical and whether it can be effectively enforced by DEM. The study should seek to determine whether the smallest of businesses can comply with the statute in a cost-effective way.
 5. Based on the results of this study, DEM should, if warranted, seek to amend the statute, as appropriate, in the 2006 legislative session, and, by December 31, 2006, should implement commercial recycling regulations that are practicable and with which compliance is achievable.
 6. It is recommended that DEM undertake a new approach to the generators of commercial waste that would establish a specific statewide commercial recycling goal to be achieved in a program under which companies self-certify and are assisted by DEM-trained Registered Recycling Managers. The program would include registration of recycling facilities, the establishment of an-on-line reporting system and would incorporate a reward system.
 7. With respect to the regulation of ~~DEM should seek to develop an approach to the enforcement of commercial recycling regulations that focuses on the~~ licensed or registered solid waste management facilities, DEM should and that would integrate the management of recyclables more aggressively into its approvals for the operation of such facilities.
 8. RIRRC should, during 2005, explore the possibility of including commercial recycling programs undertaken by municipalities in the formula for its municipal recycling participation grants.
 9. DEM should, upon adoption of this Plan by the State Planning Council, move to rescind its regulation prohibiting the landfilling of loads of CSW containing 20

percent or more recyclables. Instead DEM and RIRRC should work together to implement outright bans for the landfill disposal of all materials listed as mandatory recyclables in DEM's regulations at the time this Plan is adopted by the State Planning Council. DEM and RIRRC should also consider imposing a ban on the landfill disposal of cathode ray tubes and computers.

10. It is recommended that the RIRRC by June 30, 2007 develop a diversified commercial recycling program that could include: (1) technical assistance, including workshops and seminars; (2) promotion of Rhode Island companies that recycle; (3) programs that recognize and reward companies that make outstanding achievements in recycling; (4) joint funding and sponsorship with the R.I. League of Cities and Towns of an investigation that explores various means and approaches by which municipalities can help small businesses recycle.
11. DEM should consider developing a program under which companies and/or municipalities, if appropriate, would be allowed to "adopt a school" and subsidize the school's recycling costs as a means of offsetting penalties for environmental violations.